



"Marketing Technology to the World"

CD-R/RW Installation and Troubleshooting Guide

Version 1.2

THE
OFFICE

FOR THE PRODUCTION OF
CO-OPERATIVE WORK

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READ ME FIRST!

Please read the enclosed installation guide for your CD-R/RW drive completely and carefully before attempting installation.

Install your CD-R/RW per instructions, and your CD-Mastering/Packet Writing software, following the on screen directions. Be sure to read any "README" or "HELP" files on the disc. Shut down, then restart your system and you are ready to go.

If, after reading all documentation and installing all hardware/software you are having difficulty, First try our website FAQ's, and if that doesn't solve the issue, Technical Support is available at the following:

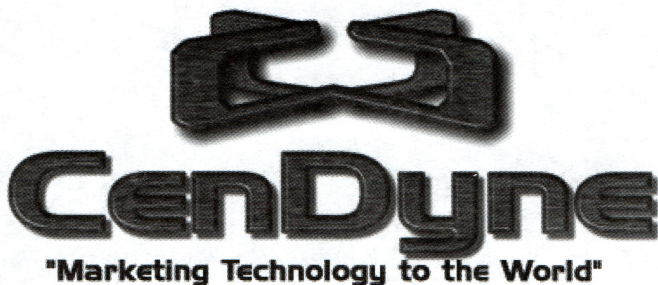
Tel: (714) 437-7039

FAX: (714) 556-5283

E-Mail: tech@cendyne.com

Before calling Technical Support, please have the following information to help us assist you:

1. Serial number of unit
2. Type of CPU
3. Version of Operating System
4. Write down any error messages
5. BE available, or near the system you are having difficulty with the installation of our product



<http://www.cendyne.com>

THE
FEDERAL
BUREAU OF
INVESTIGATION
OF THE
DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535

TO : DIRECTOR, FBI
FROM : SAC, NEW YORK
SUBJECT: [Illegible]

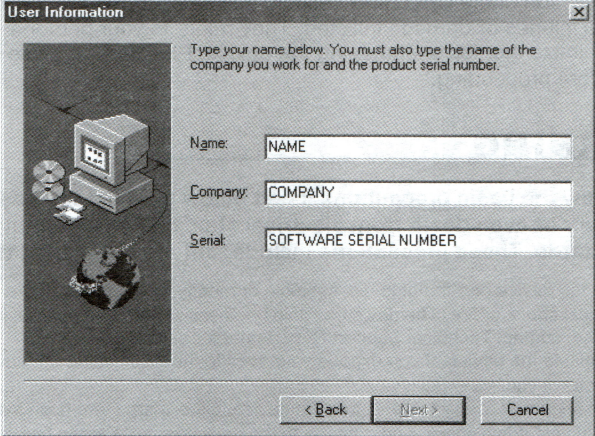
[Several paragraphs of illegible text follow, appearing to be a memorandum or report.]

RECEIVED
FBI NEW YORK
JUN 10 1964

Recording Software Installation

In order to be able to install your recording software, there are two things that must be done:

First: All information fields must be filled in. (if any fields are left blank the software installation will not let you continue to the next screen.) See below:



The image shows a 'User Information' dialog box with a title bar containing a close button (X). On the left is a graphic of a computer monitor, a CD-ROM, and a globe. To the right of the graphic, the text reads: 'Type your name below. You must also type the name of the company you work for and the product serial number.' Below this text are three input fields: 'Name:' with the placeholder 'NAME', 'Company:' with the placeholder 'COMPANY', and 'Serial:' with the placeholder 'SOFTWARE SERIAL NUMBER'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

Second: To install the software you will need the correct software serial number. The correct serial number is the number stenciled on the back of the CD sleeve (or jewel case), or it is on the paper insert that came inside the paper CD sleeve. In the event that you cannot locate it, please contact Technical Support for assistance.

SAFETY PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

These precautions explain how to use the device correctly and safely, thereby preventing injury to yourself or to others. This section has been sub-divided into a WARNING section and a CAUTION section, according to the likelihood and nature of any potential injuries or damage inflicted. They relate to your personal safety, and also help you minimize the risk of damaging the device. Please read these sections carefully before proceeding.

WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

- Do not open the device or attempt to disassemble or modify it. Otherwise, there is an increased risk of electrical shock or fire. The device contains no user-serviceable parts. If it appears to be malfunctioning, contact Technical Support Department for assistance.
- Do not look inside the device. If you expose your eyes to the laser inside the device, you risk damage or loss of your vision.
- Do not insert fingers or foreign objects into the device. Otherwise, there is an increased risk of personal injury, electrical shock, and damage to the device or fire. Please take particular care if small children are present.
- Do not expose the device to rain, use it near water or in damp or wet conditions or place containers on it that contain liquids which might spill into any openings. Otherwise, there is an increased risk of electrical shock, fire or personal injury.
- Follow the Owner's Manual carefully. Otherwise, there is an increased risk of personal injury, electrical shock, fire or damage of the unit. Follow the correct procedure when setting up the device.
- If unusual smells, sounds or smoke emanate from the device or if liquids enter the device, switch the computer off immediately and unplug it from the power outlet. Otherwise, there is an increased risk of electrical shock, fire or damage to the device. If you are still under the one-year warranty, you can call Technical Support immediately for assistance in receiving a RMA number.
- Make sure the computer is electrically grounded. Otherwise, there is an increased risk of electrical shock.
- When opening up the computer, always unplug the computer from the electrical outlet. Do not touch plug with wet hands.
- When used in a fan-cooled system, the drive should not be exposed to temperatures outside the range 5~40°C (41 ~ 104°F).

System Configuration

In order to use the CD-R/RW drive, your computer system will need to meet the following set of requirements

Computer

The **minimum system requirements** for using the CD-R/RW drive are as follows.

- Any fully PC/AT compatible computer
- A Pentium class or higher CPU running at 166MHz or faster
- Working Operating System include: Windows 95B, Windows 98, 98SE, Windows Me, NT4.0 with service pack3 or later, or Windows 2000 Professional.
- 32 MB of RAM memory, 64 MB is strongly recommended.
- A free 5.25" drive bay for mounting the drive

Recording Software

The software requirements for using the CD-R/RW are as follows:

- CD Mastering software: The software must support the CD-R/RW for writing to CD-R and CD-RW media.

NOTE: For details about how to install and use the software, refer to the Software Installation Guide.

• **About CD-R/RW discs**

Please read the following instruction on how to handle CD-R/RW discs.

- Do not expose discs to extreme temperatures, or excessive vibrations.
- Do not touch discs surfaces. When handling a disc, hold it by its edges.
- Remove dust and dirt from disc surfaces. Use air-based dust removers. The surfaces may scratch if wiped with a dry cloth.
- Do not write or stick labels on disc surfaces except where indicated.
- Do not clean disks with chemicals or detergents.
- Do not bend or drop discs.

1. The information contained in this manual is subject to change without prior notice.
 2. All trademarks contained in this manual belong to their respective owners.
 3. CenDyne does not bear any responsibility for any out come as a result of using one of its devices.
 4. Reproduction of this manual, either in part or in full, is expressly forbidden.
-

• **Precautions for Transportation**

Before transporting the device, always remove the media, if a transportation pad was included with the device, we suggest that it be inserted in the tray and the device put in its original box. If the device is transported without adequate packing, the internal components may be damaged and cause the device to malfunction.

• **Copyrights**

When writing to CD-R/RW, make sure that you are infringing any copyrights. It is illegal to copy audio CDs for non-personal use. When backing up software, please make sure that you are not infringing on any software manufacturers copyrights for that product.

• **WARRANTY**

CenDyne and suppliers accept no liability for the loss of any data or any problems caused as a result. As a precaution, It is recommended that the discs be tested after they have been written to. Further more, under no circumstances does CenDyne and its suppliers guarantee the reliability of its discs.

Table of Contents

Setup Flowchart	1
Introduction	2
System Configuration.....	3
Computer	3
Software	3
Discs	4
Tools	5
Front and Rear of Unit	6
Front Panel	6
Rear Panel	7
Installation	8
First Steps	8
Installing the CD-R/RW	9
Operation	21
Loading a Disc	21
Ejecting the Disc	21
Ejecting a Disc in an Emergency	22
Troubleshooting	23
Appendix	28
Writing Modes	28
About Firmware	29

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Set up Flowchart

This flowchart shows the procedure for setting up your CenDyne CD-R/RW drive. For easy cross-referencing, the relevant pages in the manual are also given.

STEP

1

Set up the CD-R/RW drive

1. Remove the outer cover of computer.
2. Set the jumper switch on drive.
3. Fit the drive in the computer.

STEP

2

Check that your CD-R/RW drive is recognized correctly

Go to Control Panel | System | Device Manager tab. Double <click> on CD-ROM to check that the drive is recognized correctly by the Operating System

STEP

3

Install CD writing software

For details about how to install the software, refer to the software section of manual.

STEP

4

Start using the CD-R/RW drive!

Use the new drive to create audio CDs, to back up data on your hard disk, or for any of the drives supported features.

Introduction

Features of the CD-R/RW Drive

High Speed (for drives that are 8x8x32 +)

CD-R/RW discs can be written/rewritten at up to 8x speed. For example a music CD (74 minutes/650 MB) can be created in approximately 10 minutes. Data reading at up to 32x speed is supported (on drives that support 32x playback).

CD-TEXT support

CD TEXT is a capability that adds text data to a music CD. Information such as the song name or artist name can be recorded using writing software. The text data on the disc you create can be displayed by a "Home" CD player that is compatible with CD-TEXT.

Broad range of compatibility

Compatibility assurance data obtained through exchange of technical data with major disc manufacturers ensures compatibility with discs from a very wide range of manufacturers. This also includes support for 700 MB discs.

High-fidelity digital sound (if supported)

Writing software can be used to extract digital audio data at up to 32x (if speed is supported by drive.) This data can be saved in WAV format in a Windows environment, or in AIFF format in a Macintosh environment. Digital sound can be recorded with complete fidelity even when writing up to 12x (if supported)

High reliability recording

Recording software incorporates "Burn-proof" technology, which improves the success rate of each recording.

System Configuration

In order to use the CD-R/RW drive, your computer system will need to meet the following set of requirements

Computer

The **minimum system requirements** for using the CD-R/RW drive are as follows.

- Any fully PC/AT compatible computer
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Recording Software

The software requirements for using the CD-R/RW are as follows:

- CD Mastering software: The software must support the CD-R/RW for writing to CD-R and CD-RW media.

NOTE: For details about how to install and use the software, refer to the Software Installation Guide.

Discs

The CD-R/RW can record discs that carry the following logos

	CD-R discs • The CD-R/RW drive current support drive speeds are at 1x, 2x, 4x, 6x*, 8x*, and 12x*. (The maximum speed on CD-R recording will be the first number on the box of listed speeds). • These discs can be played back in a CD-ROM drive or home player. • Compatible with "Orange Book Part 2". • When Writing on anything over 6x please use "Certified for High Speed use."
	CD-RW discs • There are two types of CD-RW discs: those that support write/rewrite speeds of 4x, 2x, and 1x, and those that support only 2x. • These discs can be read/played on (e.g. CD-ROM drive) that supports "CD-RW." • Compatible with "Orange Book Part3 Vol. 1"
	High Speed CD-RW discs • These discs allow writing/rewriting at 4x -10x speeds. • These discs can be read/played by a CD-RW drive that bears the High Speed CD-RW Logo, or by a device (e.g. CD-ROM drive) that supports "CD-RW." • Compatible with "Orange Book Part 3 Vol.2."  • In order to write, erase, or read these discs using a CD-R/RW drive, a drive bearing the High Speed CD-RW logo must be used. When using a CD-ROM drive to read these discs, the drive must be capable of reading CD-RW discs. • If these discs are used in a CD-RW drive not bearing the High Speed CD-RW logo, the discs may not be recognized, resulting in the computer not operating correctly or other malfunctions occurring. • Refer to the page at the URL below before attempting to read these discs on a CenDyne CD-R/RW drive not bearing the High Speed CD-RW logo. http://www.cendyne.com/

The Orange Book standard defines how all recordable discs (including CD-R and CD-RW) are written. Part 2 of the Orange Book standard relates to CD-R discs and part 3 to CD-RW discs. The standard was named after the color of the books pages.

System Configuration

About CD-ROM:

A CD-ROM disc is a compact disc containing high density **READ ONLY** data. It has many applications, including the playback of music and video, the archiving of data, as well as on-line documentation. The following are descriptions of each CD-ROM format:

CD-DA: Up to 74 minutes of audio written in 16-bit resolution at a sampling rate of 44.1 KHz (for a 74 minute disc).

Data CD: Up to 650 megabytes of computer data is stored in standard ISO9660 format.

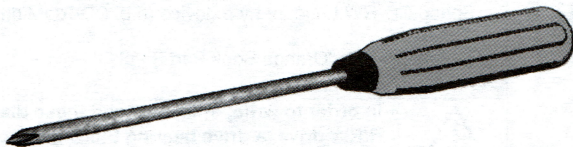
Video CD: These holds movies in which the video and audio data has been compressed using MPEG-1 technology.

Tools

You will need the following tools at hand when installing the CD-R/RW drive.

Phillips Screwdriver

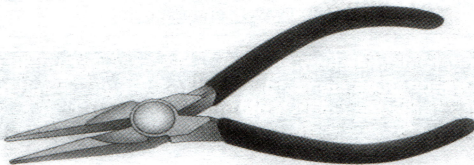
You will need to use this when removing the cover of your computer and when mounting the drive. You may also need to temporarily remove the sound card to gain access to the CD Audio connectors. In which case the small retaining screw holding sound card faceplate must be removed.



Make sure that you are using a #2 Phillips head

Long-Nosed Pliers

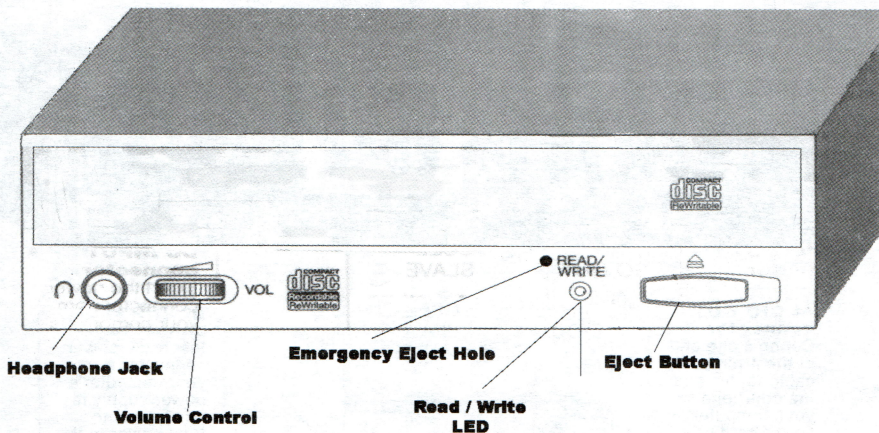
You will need these to insert and remove the plastic shunt (jumper) when setting the jumper switches at the back of the drive.



Front and Rear of Unit

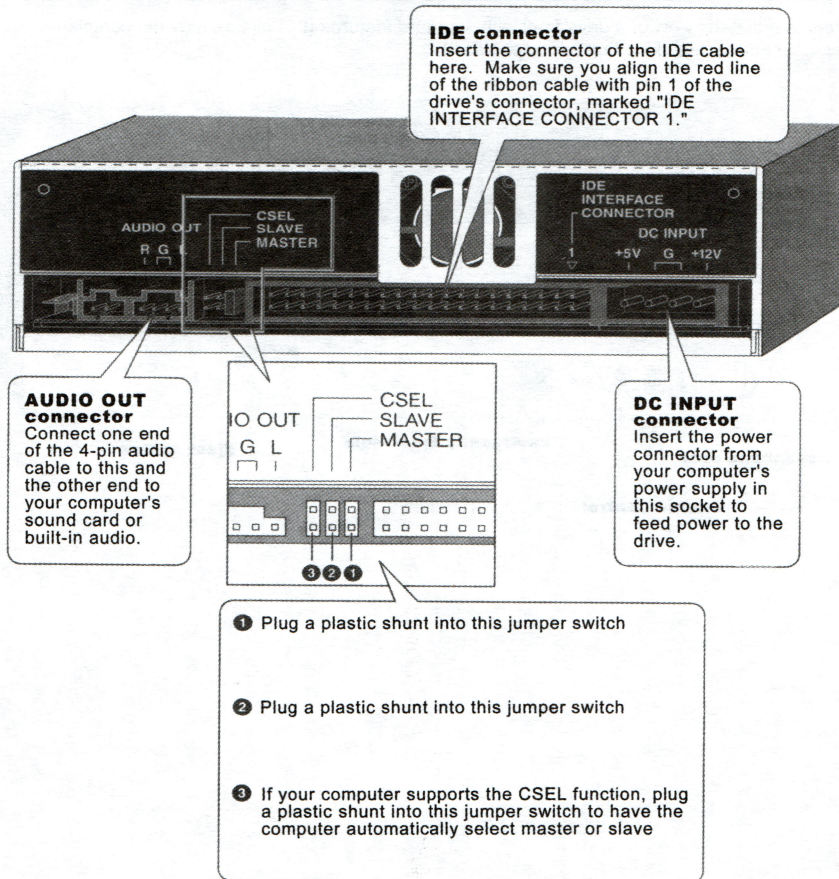
Front Panel

Here is a generic view of a drive front with standard features (this picture may not completely represent the actual drive that accompanies it).



Rear Panel

Here is a generic view of a drive with a description of what each of the connections does.

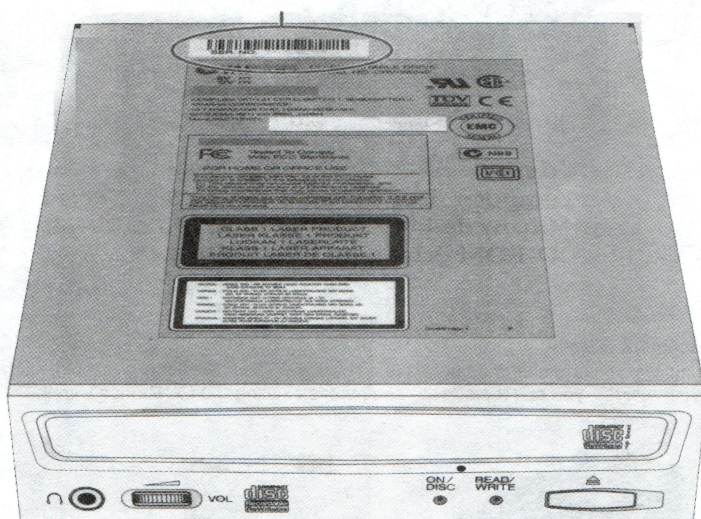


Installation

This section provides a step-by-step guide for installing the CD-RW drive. Make sure that you have all the necessary tools.

First Steps

Once you have the CD-R/RW drive out of its packaging, you should immediately jot down the serial number shown on the top of the drive (it is the closest number to the barcode.) You will need this number when requesting Technical Support Services. (Your serial number may be shorter but will not exceed the 24-character limit.

[illegible]

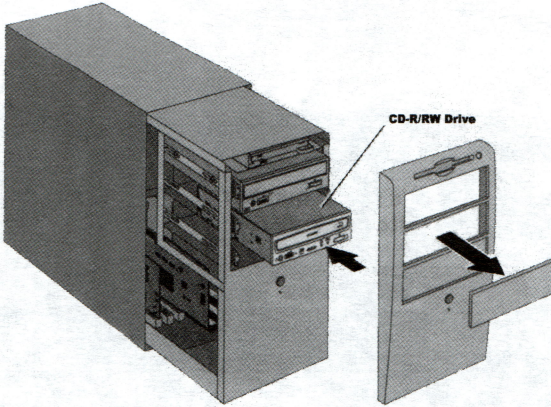
Installation

Installing the CD-R/RW Drive

You can install the CD-R/RW drive in one of two ways:

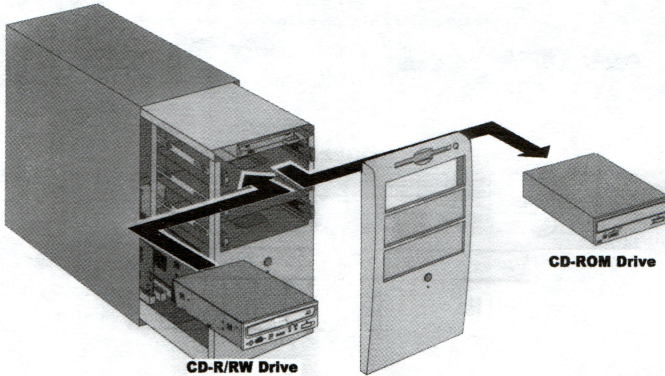
- **As an additional drive**

If the case of your computer has a spare 5.25-inch drive bay available, such as with many tower-type designs, you can install the CD-R/RW drive in addition to the computer's existing CD-ROM or DVD-ROM drive.



- **As a replacement drive**

If the casing of your computer does not have a spare 5.25-inch drive bay available, such as with many desktop-type designs, you can replace the computer's existing CD-ROM drive with the CD-R/RW drive.



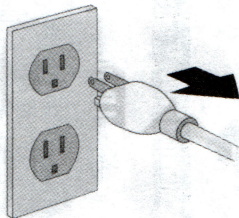
Connecting the CD-R/RW drive

The following describes how to install the CD-R/RW as a secondary master on the tower computer for expansion or replacement.

1. Power down the computer

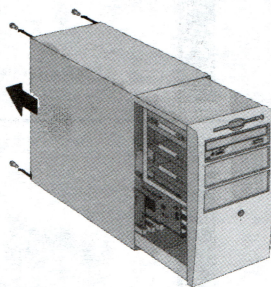


If you proceed without doing this, you run the risk of receiving electrical shock and or damaging components, including the CD-R/RW drive.



2. Remove the outer casing of the computer. If you need to remove screws in the process, make sure you don't lose them.

The method for removing the casing and fitting the drive in the drive bay can vary depending on the manufacturer. Refer to the documentation that came with your computer for further details.

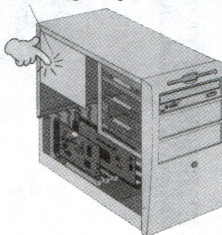


3. Touch a metal part of the computer's chassis or power supply unit to drain any static charge that may have built up inside your body. Alternatively, you can wear an anti-static grounding wrist strap.



You can permanently damage equipment if you touch it while there is any static charge in your body.

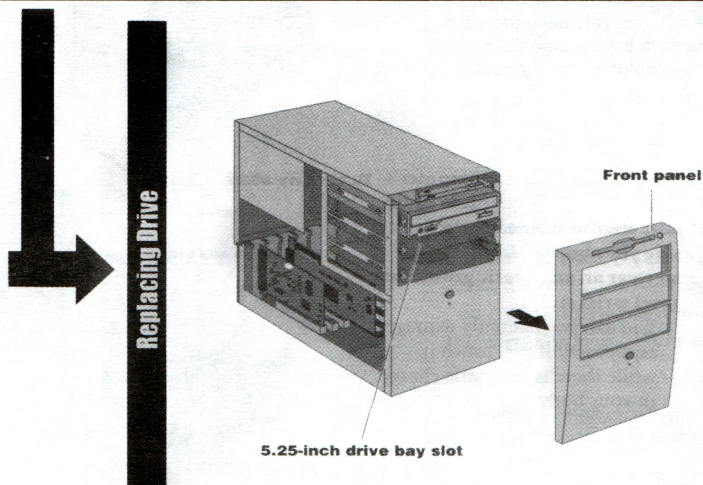
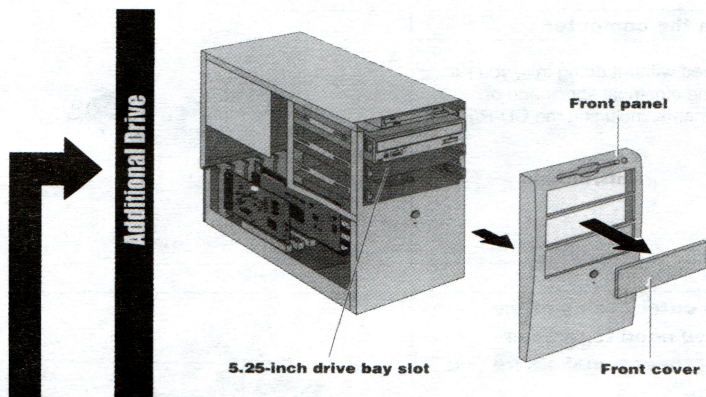
Discharge any static charge



Installation

Remove the front cover of a vacant 5.25 " drive bay slot in the computer.

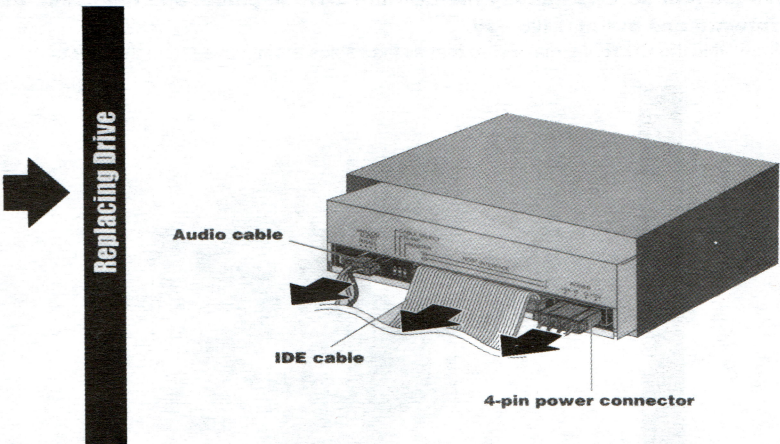
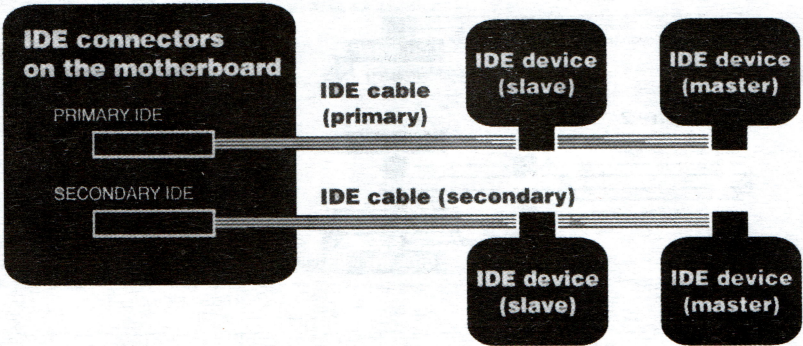
When you finish this step, proceed to step 7 on page



If you experience problems, you may have to remove the front panel (not recommend method.) Some front panels are not removable.

•About IDE

IDE (Enhanced IDE/E IDE) is the standard applied to the connection between personal computers and their peripherals. A computer motherboard provides two or more IDE connectors (Primary and Secondary). (Although, some motherboards provide only a primary connector.) You may connect up to two IDE devices (hard disk, CD-ROM, or CD-R drives) to the connectors using an IDE cable. One of the devices connected via the IDE cable is called a "MASTER" and the other is called a "SLAVE".

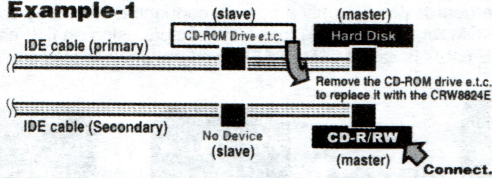


Disconnect all the cables connected to the rear of the existing CD-ROM drive, and also disconnect the audio cable from the sound card or motherboard's audio connector.

• About IDE

CenDyne Tech Support recommends the CD-R/RW be placed as Secondary Master.

Example-1

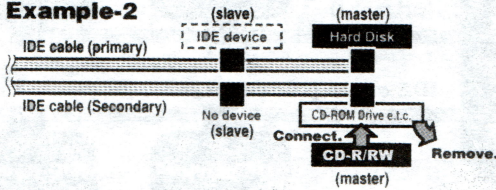


If you disconnect the IDE device and re-connect it to another location, other devices connected to the IDE cable may become slow in processing, unstable, or inoperative.

If the 40-pin IDE cable has only one connector available but you wish to re-connect the IDE device (that you just disconnected) to another location, use a 40-pin IDE cable that has two connectors.

If you connect only one IDE device to an IDE cable, assign the device as a master and connect it to the end of the cable.

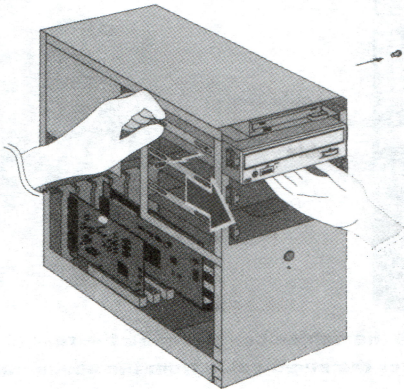
Example-2



Remove the four screws holding the CD-Rom drive in place, and then slide the drive forward and out of drive bay.

Before removing the CD-ROM, make sure that all the cables are removed from the rear of the CD-ROM.

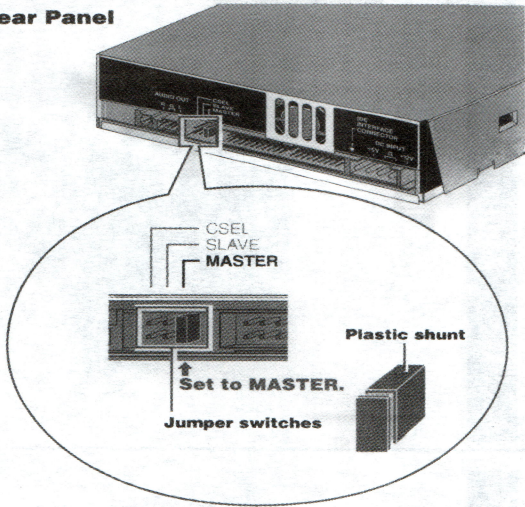
Replacing Drive



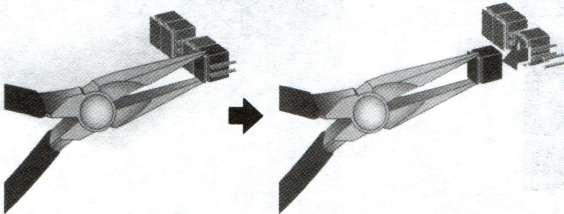
Set the CD-R/RW as Master.

Plug the included plastic shunt (a.k.a. jumper) to the MASTER jumper switch on the rear panel of the CD-R/RW.

Rear Panel



Use a pair of long-nosed pliers or tweezers to attach or detach the plastic shunts accordingly. However, make sure the computer is switched off before doing so.



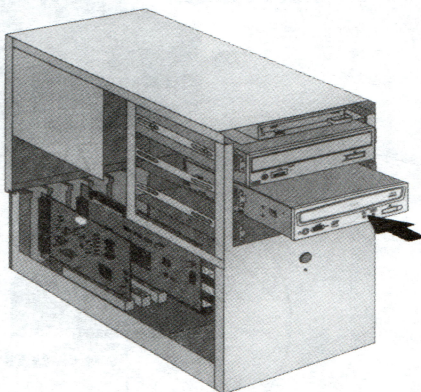
Installation

Slide the drive backwards into the slot.

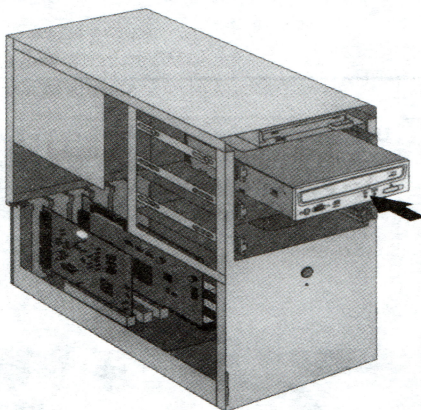
Do not apply excessive force when sliding the drive into the slot.



Additional Drive



Replacing Drive



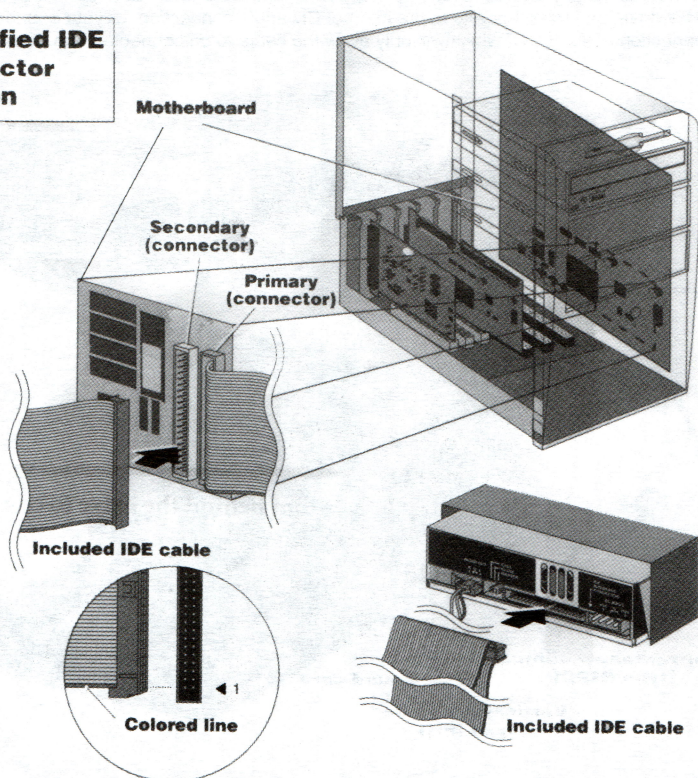
Slide the CD-R/W backwards into the now vacant bay without using excessive force.

Installation

Connect the IDE cable

Connect the included 40-pin IDE cable to the Secondary IDE connector on the motherboard and to the IDE interface connector on the rear panel of the CD-R/RW. Be sure to plug in the cable so that the colored line on the cable corresponds to pin #1 on the right end of the connector.

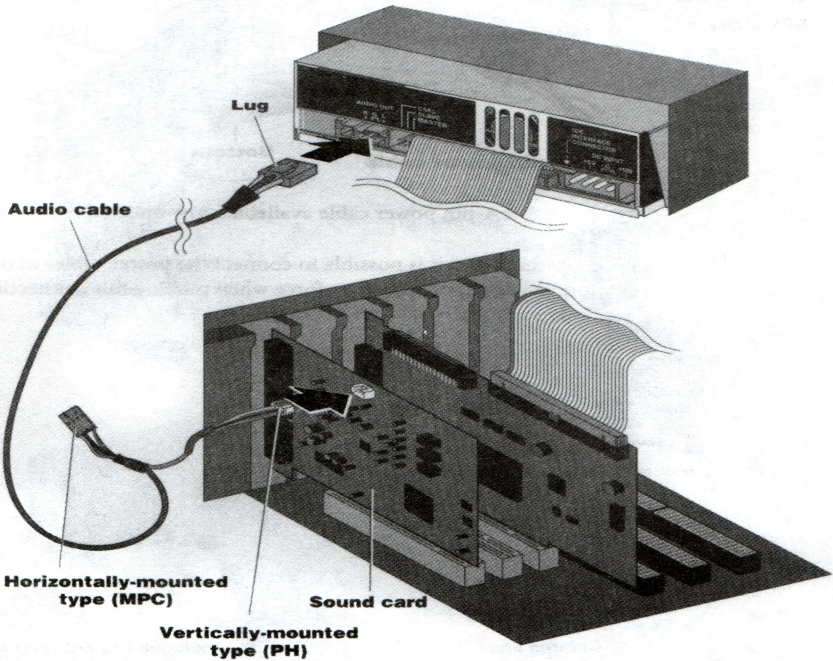
Magnified IDE connector section



NOTE:

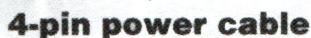
- If an IDE cable has already been connected to the Secondary IDE connector, You can replace it with the included IDE cable
- If you wish to continue using the IDE device you just removed, connect it to an available primary or secondary IDE connector.
- When you connect two IDE devices to one IDE cable, be sure to assign them MASTER or SLAVE uniquely.

Connect the audio cable between the CD-R/RW drive and the computer's sound card, or the motherboard's audio connector if it has built-in audio. Both ends of the audio cable have a vertical-mounted type connector. This is the most universal type of connection, but the extra purchase of a cable that better suits your needs may be in order. Connect the one end to the "AUDIO OUT" on the CD-R/RW drive, and the other end to the internal CD audio connection for your sound card (or chip). The connection has a "LUG" which will only allow the cable to be connected one way.



NOTE

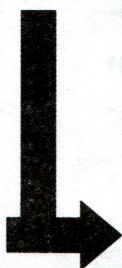
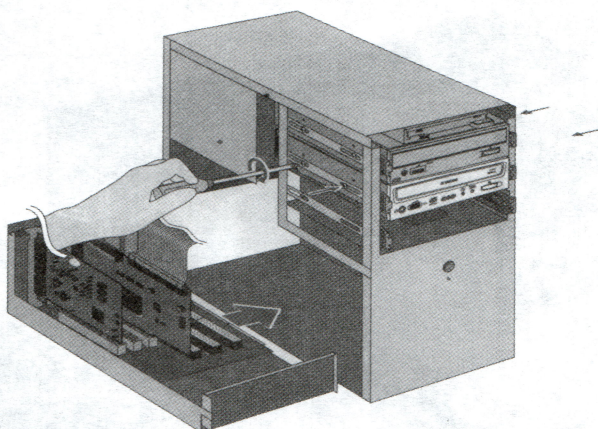
You do not need to connect the audio cable to write audio CD's since the audio is passed over the IDE bus. It is required to play back audio CDs on the CD-R/RW drive via the computer's sound card. However, if a CD-ROM drive is already connected to the sound card, you should use this drive to play back your audio CDs. To listen to audio CDs without a computer sound card internal connection, you can connect headphones or speakers to the headphone jack on the CD-R/RW's faceplate. Another way is run a audio patch cable from the headphone jack on the front of the drive (externally) to the "LINE-IN" on the sound card and still maintain a connection to the computer speakers.



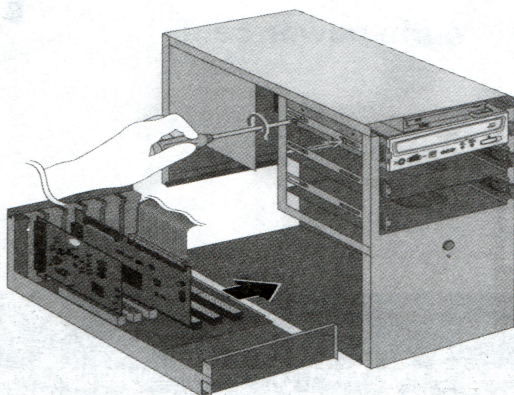
Tighten the four fastening screws on the side of the unit securely using a screwdriver.



Additional Drive



Replacing Drive



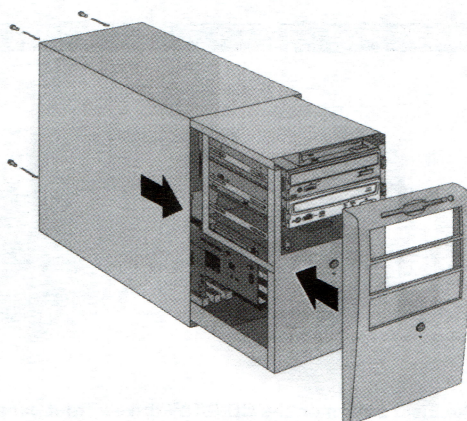
Tighten the four fastening screws on the side of the unit securely using a screwdriver.

Installation

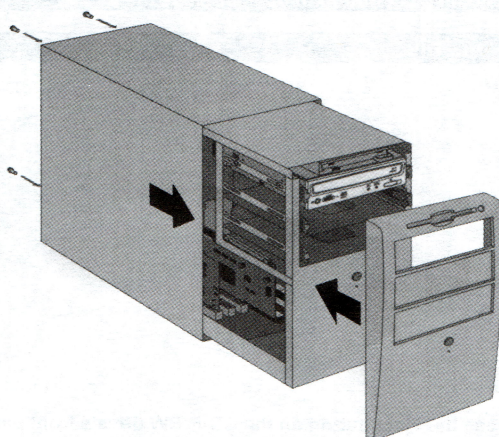
Attach the outer casing of the computer and any screws that were removed.



Additional Drive



Replacing Drive

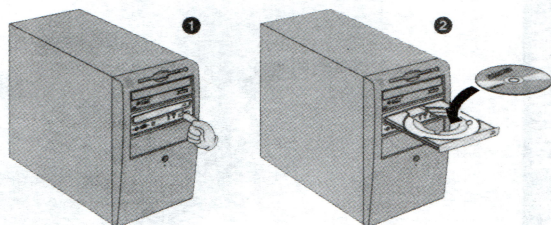


Attach the outer casing of the computer and any screws that were removed.

Operation

This section explains how to operate the CD-R/RW drive after you have installed it. You can load and eject a disc (as described below) only when the computer is powered on.

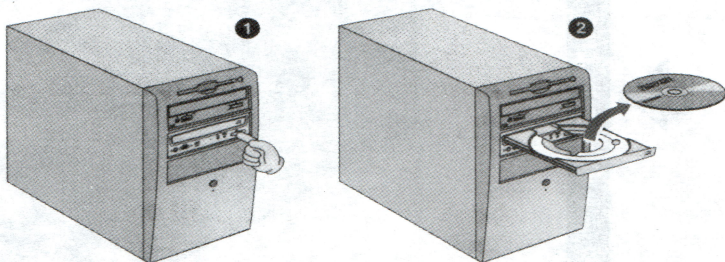
Loading a Disc



1. Press the Eject button on the CD-R/RW drive's front panel.
2. Place the disc onto the tray with its label or printing facing upward.
3. Press the Eject button to close the tray.

NOTE: Do not push or pull the tray. Doing so can damage the drive or the disc. Instead, always use the Eject button to open or close the tray.

Ejecting the Disc



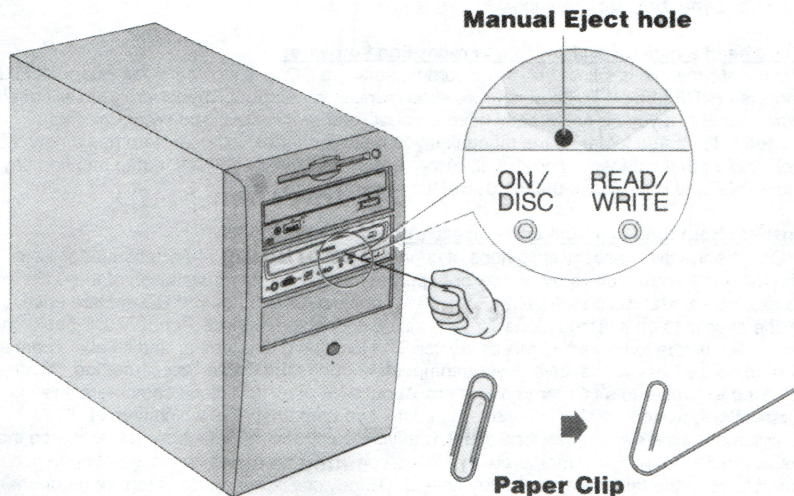
1. Press the Eject button on the CD-R/RW drive's front panel.
2. Remove the disc from the tray.
3. Press the Eject button to close the tray.

Operation

NOTE: The disc tray will not open if the computer is not switched on. With the CD-R/RW powered on, pressing the Eject button will not open the disc tray if ATAPI commands prohibit ejecting a disc, such as reading data. Remove the disc only after the disc tray has opened fully. Otherwise, you risk damaging the drive or the disc.

Ejecting a Disc In an Emergency

If the disc fails to open for some reason, such as a power outage, you can open it manually.



You should attempt to eject a disc manually only as a last resort. Malfunction may occur if you do this too frequently.

1. Power down computer.
2. Find a pin-like tool with a diameter of 2mm or less to fit through the Manual Eject hole on the drive's front panel.

NOTE: A straightened paper clip is ideal for this purpose.

Troubleshooting

1. If you are unable to install your recording software or progress past the serial number input page:

In order to be able to install your recording software, there are two things that must be done. First, all fields are required (if you leave any field blank it will not install). Secondly, and most importantly you must supply the installer with the correct serial number. The serial number is not the box serial number, nor is it the drive serial number. The correct serial number is the number stenciled on the back of the CD sleeve (or jewel case), or on the insert in the paper sleeve that the CD came in. In the event that you do not have one or that you lost it you can contact Technical Support and ask for new serial number after providing the Technician with a valid CenDyne drive serial number.

2. If you need a manual on how to use recording software:

A complete manual is located on the recording software CD. It is located in the "manual" folder and it is in PDF format. To be able to view the manual the Acrobat Reader program will need to be installed. If you do not already have Acrobat Reader installed. The program is also located in the same folder as the manual. If you need further assistance, Nero has a new "Help tool" feature that extensively covers all of the recording software abilities, not to mention any "How To's" and or FAQ's about the use of the recording software.

2. Unsure about how to install and correctly hook-up your CD-RW:

***NOTE *** since there are the limitations of connections and logistics of each computer case. The following instructions may or may not apply in its entirety. The installation of the drive will be as either a "stand-alone-drive" or it will be in conjunction with another CD or Hard drive.

If the drive is to be a "stand alone" drive it will be connected to the Secondary IDE cable and the drive must be jumpered as MA or master. The location of the jumper and its placement are located on the back of the drive. If your computer supports the Cable Select method, the drive will need to be jumpered as CS or cable select. About 97% of all IBM clone computers use the Master/Slave system. It also is important to note if you are unsure of which type of configuration your system has then check with your computer manufacturer, or reference the manual included with your motherboard if it is a self built system. If this configuration is not possible do to the fact that you already have 3 IDE devices in the system then we recommend that you install the CD-RW drive as a Master on the Secondary IDE cable. If you have an existing CD-ROM on the Secondary IDE cable we suggest that the CD-ROM be jumpered to the Slave position.

NOTE: the jumper setting has no bearing on which drive is going to be used more than the other. The setting is the only way the computer can differentiate between two devices on the same cable. For example it is like naming one drive "A" and one drive "B". With the CD-RW as a Master it will shorten the search time the recording software will have to do to acknowledge the CD-RW drive.

3. If you are receiving a "Power Calibration error":

Optimum Power Calibration is intended to adjust the recording laser power to the optimum level for the specific recordable media you have inserted into the recorder. Each CDR / CDRW disc contains a reference value for laser power in the preformed track which gives the starting point to the recorder to determine the ideal laser power. There is a special area on each CDR / CDRW disc set aside for the laser to power up to the level required to burn the disk. If the laser power calibration process fails, you will receive a Power

Troubleshooting

Calibration Error. This may indicate that the laser in your CDR / CDRW drive may need to be calibrated.

Try using a different brand of media. If the error continues, contact our Technical Support Department.

4. **If you are receiving a "Buffer under-run error":**

The Buffer underruns error indicates that the source drive was unable to keep the buffer full and the recorder was left without incoming data. Many times lowering the recording speed to 1x will solve the problem. We only support the recording of audio at single speed to reduce errors and provide the best possible sound quality. If you're recording from a hard disk make sure to defragment the drive and run scandisk to ensure good operating condition.

If you have any screen savers, or power management features enabled they could interrupt the recording process. Also, some virus scanning software comes to life periodically and you would want to suspend its activity. Do so by pressing Cntrl+Alt+Delete one time and manually end task on everything except systray and explorer.

Sometimes rebooting just before a session may also help. If at all possible we recommend using a dedicated partition on the hard disk for recording. This makes defragmentation and seeks much easier and smooth. There are issues with some hard disks that undergo long thermal recalibrations, the duration of which depletes the recorders buffer. The only solution would be to switch sources.

***Some rules to prevent Buffer Under-runs:

- Use a fast, AV friendly hard drive (i.e. One that does not do slow thermal recalibrations).
- Record at slow speed. It takes longer to empty a buffer when recording at 1X.
- Don't record from a file server or use the system in the process.
- Run Scandisk and Defrag regularly.
- Record from an image on your hard disk rather than On-The-Fly.
- Ensure no drives are in Dos compatibility mode.
- Turn off auto insert notification.
- Make sure hard disk controllers are properly defined and that DMA mode is selected in the device manager.
- Remember that you can use the CD-RW as the source and destination drive to ensure the best possibility of avoiding buffer under runs between a source drive and the destination drive. If you're using a CD-rom as a source, we recommend 36x or higher and you want a drive that supports digital audio extraction well for recording audio on the fly (Disc to Disc). Digital audio extraction has little to do with a drives speed and even many newer drives leave a lot to be desired. There are system diagnostics available within the recording software we provide that will measure the rate of audio extraction. You want a reading significantly higher than 600k a second. If you're unsure your source drive is capable of doing audio well, use the recorder to extract WAV files to your hard disc instead. Our recording software will recognize the format and convert it back to CDDA with normally inaudible differences.

What brand of media should I use?

Here's everything you wanted to know about media and probably some stuff you didn't, but we want to be thorough.

Standards are still loosely set in regards to recordable media and you will find your CD-R/RW may not like certain brands.

Troubleshooting

*Overall, stick with the brand that works for you. This will alleviate the possibility that the changing of media brand is a contributing factor for the drive to not be recording correctly.

CD-R discs have a section outside the standard recording area called the Program Calibration Area (PCA), which is used to adjust the laser for the brand of media, you're using. If it's not within a suitable range for your CD-R or CD-rom, it will fail. This can be reported as a power-calibration error, lockup, medium error and various others. Switching brands of media is a common workaround.

If your drive is failing with one type and working others, it's not always the fault of the media. The discs either are not calibrating properly in your drive or could be defective. It's impossible to say unless we test some of the remaining samples here. You have 2 options, either exchange the discs with the retailer where purchased or contact our RMA department (rma@cendyne.com). Please understand that our warranty on media is very limited and covers defects within the material only.

Many older CD-ROM's will not read re-writable media, and it takes special "multi-read" CD-ROM's to read re-writable media. Occasionally that's not a guarantee your drive will recognize the media. How the disc is recorded also plays a role in the drive's ability to read the media.

If a CD-ROM does not have the multi-read characteristic and looks at a multi-session disc, it may only see the first session and ignore the rest or not recognize the media at all.

NOTE: Not all CD-ROMs are created equal.

To increase compatibility between CD-ROM's try to record discs all in one session using EZ CD Creator or Nero Burning-rom or Primo Prassi CDPlus.

The following is directly from Adaptec, the people considered to be an authority on CDR and CDRW.

FAQ: What's the best kind of recordable media to use with my recorder?

There is no simple answer to this question, but let's start by defining "best":

Presumably you write a CD in order to be able to read (or play) it, probably on some device other than the recorder that recorded it. So an ideal disc is one that, once written, can be read or played back on whatever systems you wish (your own CD-ROM drive, the CD-ROM drives of colleagues and clients, your home and car stereos, a Video-CD or DVD player, etc.)

If your CDs are written correctly (meaning: there were no errors during the recording process), but you have trouble reading them on one or more devices, you first need to determine whether the problem is with the media, or with something else.

About Media Compatibility:

The readability of a CD may be affected by any combination of:

1. The media type (CD-R vs. CD-RW), its brand, and even the batch in which it was manufactured.
2. The speed at which it was recorded.

Troubleshooting

3. The CD-ROM drive, audio player, DVD drive, etc. it's read back on.
4. The recorder it was recorded on, and sometimes the recorder's firmware.

You can search the list's archives at <http://listserv.adaptec.com/> to see what other users have found works well with their recorders.

Be aware, that discs that are identical in brand and type are not always produced in the same factories, and disc formulations can change slightly even from batch to batch, so your results may not be wholly consistent even if you always buy the same brand and type.

Tip: If you do change brands, don't use up every last disc from the previous batch that you know works; keep a few of them. That way, if you start having trouble after buying new media, you can make a test burn with one of the old discs to determine whether the problem is with the new media, or something else.

The speed at which a disc is recorded can sometimes affect how easily it can be read or played. Recording at a slower speed may produce a more readable disc - though a few users have reported exactly the opposite experience. This defeats the purpose of having a high speed CD-RW drive, but it might be necessary for a slower drive to be able to read from a disk made by a high speed drive.

When writing at 4x or higher speed, it's important to use media that is certified for recording at that speed (some recorders wisely refuse to write at a high speeds on media not rated for it). This is especially critical when writing at 4x speed to CD-RW media. Another point to remember is that a drive that can write 8x or 10x CD-RW media is backward compatible and will also read slower CD-RW media, but a drive that cannot write CD-RW media over 4x cannot use CD-RW media that has been recorded faster than 4x.

Many older CD-ROM drives and audio CD players weren't designed to read CD-R discs. The reflectivity of CD-R discs falls within a broad range specified by the CD standards, but older CD-ROM drives were often calibrated only to read factory-pressed (silver) discs, which occupy a narrow part of this range of reflectivity. On some older devices a change of media may help.

CD-RW discs are a special case; even many of the current generation of CD-ROM drives don't read CD-RW discs. Devices that adhere to the MultiRead standard do read CD-RW discs. Usually any CD-ROM that is 36x or higher will be multi-read capable.

Making successful Audio CD's:

Audio is much harder to copy than data. You can attempt to record at higher speeds, but we suggest you copy audio at single speed for improved results. We only support recording audio CD's at 1x.

****DO NOT use blank Re-writable media for recording audio, use CD-R blank media.****

Make sure to always record Audio in one recording session (Fill up and close the disc) to ensure compatibility with other CD-ROM drives. You will have a **MUCH** better chance of reading the disc in your car or home CD player.

Troubleshooting

If you're trying to record from another CD-rom, look at its extraction abilities and also reduce the extraction rate if necessary. Many drives do not support DAE (Digital Audio Extraction). You can test the rate of audio extraction with the recording software provided. By lowering the extraction speed you will improve sound quality and correct for errors but may experience buffer underruns. Consider creating .WAV files on your hard disc, discussed further down.

If you're interested in a completely digital transfer, record audio "On the Fly" with a fast DAE drive. We recommend drives by Pioneer, Plextor, Teac, and a few select others. Many high-end models extract audio but the differences in the actual extraction speed vary widely. For example, the Pioneer 24X has the capability of reading at 24x but only extracts audio at 6x and this is considered a capable drive. Speed is not the determining factor, DAE is.

****NOTE****

The most reliable way to record audio is to extract the tracks into individual WAV files on your hard disk. The benefit of extracting to WAV files gives you the ability to play them back and see if the distortion is being generated in the extraction process or during recording by playing the .wav back before recording. It's also a great way to make greatest hits CD's.

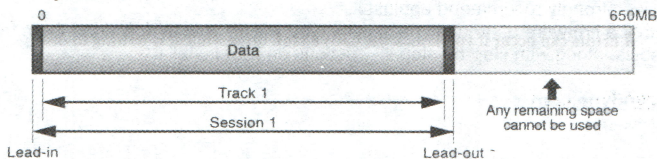
Appendix

Writing Modes

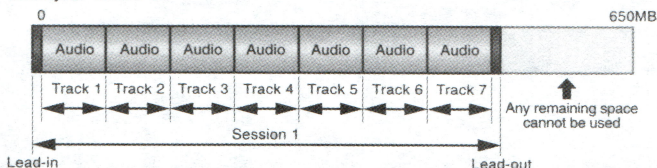
Disc-at-Once (DAO)

This mode is used when writing a complete disc in a single pass without pausing. Data cannot be added later, even if the full capacity of the blank disc has not been used.

Example: General CD-ROM



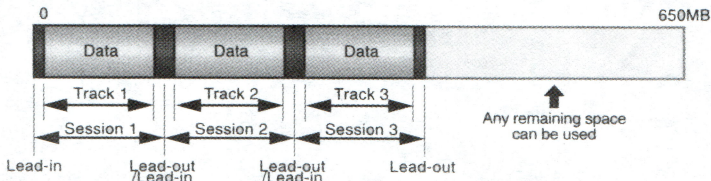
Example: Audio CD



NOTE: The Lead-in and Lead-out areas signify the beginning and end points of a session. They are not part of the data, but contain information about the session itself. Basically, a session consists of a Lead-in, data, and a Lead-out.

Track-at-Once

This mode is used when writing data to a disc one track at a time. More tracks can be added later if there is enough space left on the disc. This is why Track-at-Once mode is sometimes referred to as Multi-session.



NOTE: Only the first session of a multi-session disc can be played back on a conventional audio CD player. Single session discs can be played back completely.

Firmware

Firmware is the programmed instructions that are burned into the EPROM chip of the drive. The firmware tells the drive what it can and cannot do, how it sees media, and how the computer and Operating System will treat the drive. The firmware is not like a driver and is not to be updated at will. The firmware upgrades made available by the manufacturer are to fix problems and or bugs that are found at a later date.

NOTE: There is no guarantee that the drive will accept the firmware upgrade and if this fails it will render the drive useless. So unless instructed to get and install a Firmware upgrade by one of our Technicians, we strongly recommend against it.

In the event that a firmware upgrade is necessary, you will be able to download them from the CenDyne website along with step-by-step instructions on how to install it.

<http://www.cendyne.com>

